

MASSACHUSETTS MOSQUITO CONTROL
ANNUAL OPERATIONS REPORT



2008 Year of Report

Date of Report: 4-3-2009

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

Address: 142 R Pembroke St.

City/Town: Kingston

Zip: 02364

Phone: 781-585-5450

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E-mail: atexeira@plymouthmosquito.com

Report prepared by: Anthony Texeira

If you have a mission statement, please include it here:

ORGANIZATION SETUP:

Please list your Commissioner's names:

Carolyn Brennan - Chairman

Leighton F. Peck, Jr.

Kimberly King

John Kenny

Please list the Supt./Director's name: Anthony Texeira

Please list the Supt./Director's contact phone number: 781-585-5450

Please list your Asst. Supt./Asst. Director's name: Jo Ann Fawcett Project Coordinator

Do you have a website? Yes

If yes, please list the web address here: <http://www.plymouthmosquito.com>

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

Full time: 11

Part time: 1

Seasonal: 8

Other: (please describe)

Please break these down into the following areas:

Administrative staff: 2

Field staff: 9

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

- Public relations Dan Daly
- Information technology
- Entomologist Ellen Bidlack
- Wetland Scientist
- Biologist
- Education Dan Daly
- Laboratory
- Operations Jo Ann Fawcett Steve Gillett
- Facilities Anthony Texeira Steve Gillett
- Other (please list) Pilot - Greg Goodband, Excavator operators - Greg Goodband
Excavator operator - Brian Callahan, Area Foreman - Edward Medeiros, Ronald
DeMoura, Richard Goodwin, Christopher Hanna and George Rego

For the year of this report, we maintained:

18 vehicles

1 modified wetland equipment (list type) Link-Belt

9 ULV sprayers (list type) Becomist

14 Larval control equipment (list type) 2 Hydraulic unit, 2 backpack sprayers, 10 pump
cans

Other (please be specific): 1 Airplane, 1 unmodified excavator, 1 trailer, 1 small boat

Comments: _____

How many cities & towns in your service area? 28

Please list: Abington, Bridgewater, Brockton, Carver, Cohasset, Duxbury, East
Bridgewater, Halifax, Hanover, Hanson, Hingham, Hull, Kingston, Lakeville, Marion,
Marshfield, Mattapoisett, Middleboro, Norwell, Pembroke, Plymouth, Plympton,
Rochester, Rockland, Scituate, Wareham, West Bridgewater, Whitman

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

<http://www.plymouthmosquito.com/map.htm>

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: The larval suppression program is one of our most effective methods to reduce the number of biting mosquitoes by preventing mosquitoes from maturing into adults, protecting human health and improving the quality of life of our residents.

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

Describe the areas that this program is used: We target a variety of fresh water wetlands and salt marshes

Do you use:

- Ground applied (includes hand, portable and/or backpack)
- Helicopter applications
- Other (please list): airplane

Comments: _____

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

Wetlands: Vectobac 12AS 73049-38, Vectolex CG 73049-20, BTI Briquets 6218-47, Altosid XR 2724-421

Catch basins: Altosid pellets wsp 2724-448, Altosid Pellets

Containers:

Other (please list):

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

Wetlands: Vectobac 12AS 1 pint per acre by plane, 1 1/2 pint per acre helicopter

Catch basins: Altosid Pellets 7 gramms per basin

Containers:

Other:

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

- Larval dip counts – please list trigger for application:
- 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: The goal of our program is to reduce the number of biting mosquitoes to protect human health and improve the quality of life of our residents.

Please give the time frame for this program: May - October (end date depends on virus activity)

Describe the areas that this program is used: We accept request for adult mosquito control from project residents, businesses and town officials.

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 1020 - 1688-88329
- 2). FLIT 10 EC - 8329-67
- 3).
- 4).
- 5).

6).

Please list your application rates for each product:

- 1). fl. oz. Anvil 10 +10 ULV per acre = 0.62
- 2). 7 oz. FLIT per gal. water
- 3).
- 4).
- 5).
- 6).

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

Each resident has a maximum of 10 treatments per season

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: _____

***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: Our source reduction program is comprised of our ditch maintenance program, OMWM and education. We often inspect properties and offer advice to landowners regarding actions they can take to reduce the amount of mosquito production on their property.

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

Comments: _____

DITCH MAINTENANCE

Do you have a ditch maintenance program? Yes

Please check all that apply:

- Inland/freshwater
- Saltmarsh

If yes, please describe: Inland Ditch Maintenance

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 40,580
Mechanized cleaning 4,485
Other (please list): 5525

Comments: _____

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

Hand cleaning
Mechanized cleaning 4,485
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.**

OPEN MARSH WATER MANAGEMENT

Do you have an OMWM program? Yes

If yes, please describe: We have had an OMWM program on and off since the late 1980's

Please give an estimate of total square feet or acreage:

What time frame during the year is this method employed?

Comments: We did not do any OMWM projects this year.

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

ADULT MOSQUITO SURVEILLANCE

Do you have an adult mosquito surveillance program? Choose one

Please list the number (not location) of MDPH traps in your service area:

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

- | | |
|---|---------------------------------|
| <input checked="" type="checkbox"/> Gravid traps | |
| <input checked="" type="checkbox"/> Resting boxes | |
| <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 type="checkbox"/> ABC light traps | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> ABC light traps w/CO ₂ | <input type="checkbox"/> Canopy |
| <input checked="" 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): UV light traps can be baited with CO₂.

Please describe the purpose of this program: To monitor the mosquitoes for disease, to determine general populations levels and to decide where we can better focus our larvaciding efforts.

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

If yes, please describe how you chose these long-term sites. We maintain a system of NJ traps that have been at the same locations for numerous years. In cooperation with DPH we have in recent years begun to maintain our own sites for disease surveillance.

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 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 checked="" type="checkbox"/> <i>Oc. stimulans</i> |
| <input checked="" type="checkbox"/> <i>Cx. restuans</i> | <input checked="" 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): **An. walkeri**

Do you participate in the MDPH Arboviral Surveillance program? Yes

How many pools do you submit weekly on average? 23.5

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

- West Nile Virus
 Eastern Equine Encephalitis
 Other Please list: Dog Heartworm is present but not monitored by DPH

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

Please explain: 2004 - 2 humans and 3 horses with EEEV, 2005 - 4 humans with EEEV, 2006 - 2 humans and 2 horses with EEEV, 2007 - no disease in humans or horses, 2008 - no disease in humans or horses.

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

WNV: low
EEE: low

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

WNV: high
EEE: low - only exception Lakeville was moderate.

What time frame during the year is this method employed?

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: On site presentation to schools and community organization. elementary school "Mosquito Awareness Week" poster contest, Press releases are sent out by the Community Liasion along with monthly personal contacts with town health officials. He provides school administrators and health agents updates and education on the Child Protection Act and school IPM plans. Educational information is available on the PCMCP website. Hand outs and brochures are supplied to the towns and to individual by requests.

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: 1800

Please list some events you participated in for the year of this report: Kingston Elementary Health Fair, Council on Aging (Plymouth, Halifax, Pembroke)

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

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

If yes, please elaborate on your research projects: FLIT Barrier Spraying Effacacy Project

Are you involved in any collaborations with academia, industry, environmental groups, etc.? Not at this time

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: Clarke Pesticide training, Northeast Mosquito Control Association, NAAA annual convention.

Please list the certifications and degrees held by your staff: Excavator operator ,Pilot - Greg Goodband, U.S. Commercial Airline Certificate, Commercial Certification 34 + 47 CDL, Hoisting License- Excavator operator - Brian Callahan Commercial Certification 47 CDL, Hoisting License, - Area Foreman - Edward Medeiros B.S., Applicators license CDL, Hoisting License, - Ronald DeMoura Commercial Certification 47 - Richard Goodwin Commercial Certification 47 - Christopher Hanna Commercial Certification 47 - George Rego Applicators license, CDL - Ellen Bidlack B.S., M.A., Commercial applicators Certificate 47 - Anthony Texeira B.S., M.A.T. Commercial Certificate 47 - General Foreman Steve Gillett Commercial Certification 47, CDL, Hoisting License .

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 apply):

- Computers
- GIS mapping
- GPS equipment
- Computer databases
- Aerial Photography

Other (please describe):

Please describe your capabilities in these areas: Our goal is to use computers and GIS technology to improve record keeping, efficiency and communication. As a result these tools have been used in a variety of ways to meet these goals. Almost 10 years our service requests have been put directly into a database. We are using this Service Request system in 2008. The new system decreases data entry errors and speeds handling of the requests. We have geocoded two years of service requests to help us identify areas where we can improve our larviciding. Other ways we have been using this technology includes installing PDAs and GPS units in all our trucks with ULV sprayers. This system tracks when and where the sprayer was used as well as other information. PCMCP's helicopter contractor uses similar technology as well. We also use GIS technology to map our trap sites and help determine trap placement breeding sites and sensitive habitats. We are developing a system using GIS and computer databases to improve tracking of our hand larviciding sites and ditch maintainance.

Please describe your current GIS abilities: Intermediate

Give details if possible on your GIS abilities: We currently have: ArcGIS 9.1 installed on one computer, 3 hand held GPS units including 1 Trimble GeoXT. We have GPS units installed in 11 of our trucks.

Please describe any changes/enhancements in this area from the previous year: Geo coding breeding sites and placing symbols on Area Foreman's town maps along with vernal pools and sensitive habitats as determined by Mass. Natural Heritage program.

Comments: _____

REVENUES & EXPENDITURES

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

For FY08, PCMCP had a budget assessment of \$1,289,291 plus a rollover amount from FY07 of \$140,268, a combined total of \$1,429,559. Payroll expenditure was \$722,000. Chargebacks from Group Insurance, Medicare, Work.Comp was in the vicinity of \$196,000. Retirement portion was \$101,916. Insecticides purchased was in the area of \$166,000. Auto, liability, airplane insurance totaled approximately \$62,000, the purchase of GPS units for state vehicles \$25,000. SRB's chargeback was approx.

\$32,000. The balance was expended on rent for office, rent for aircraft (also maintenance on aircraft), utilities, office supplies, various shop supplies, repairs and maintenance on state vehicles, fuel for vehicles and airplane, lab equipment, mapping and aerial spray program.

Comments: _____

PESTICIDE USAGE

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

Product Name: ANVIL
EPA Reg. #: 1021-1688-8329
Application method: ULV
Targeted life stage: Adult
Total amount of concentrate applied: 470 Gals
Comments: _____

Product Name: FLIT 10 EC
EPA Reg. #: 8329-67
Application method: hand
Targeted life stage: Adult
Total amount of concentrate applied: 5 Gals
Comments: _____

Product Name: Altosid pellets wsp
EPA Reg. #: ULV
Application method: hand
Targeted life stage: Larvae
Total amount of concentrate applied: 844 lbs
Comments: _____

Product Name: Altosid XR bricks
EPA Reg. #: 2724-421
Application method: hand
Targeted life stage: Larvae
Total amount of concentrate applied: 18lbs
Comments: _____

Product Name: Vectobac 12 as
EPA Reg. #: 73049-38
Application method: Hydraulic sprayer/ pump-can
Targeted life stage: Larvae

Total amount of concentrate applied: 1gal
Comments: _____

Product Name: Summit b.t.i. briquets
EPA Reg. #: 6218-47
Application method: hand
Targeted life stage: Larvae
Total amount of concentrate applied: 55lbs
Comments: _____

Product Name: Vectobac 12 as
EPA Reg. #: 6218-47
Application method: aircraft
Targeted life stage: Larvae
Total amount of concentrate applied: 2,023
Comments: _____

Product Name: Vectolex cg
EPA Reg. #: 73049-20
Application method: hand
Targeted life stage: Larvae
Total amount of concentrate applied: 25 lbs
Comments: _____

Product Name: Vectobac cg
EPA Reg. #: 73049-20
Application method: aircraft
Targeted life stage: Larvae
Total amount of concentrate applied: 1,960
Comments: _____

LARGE AREA EXCLUSIONS

Do you have large areas of pesticide exclusion, such as estimated or priority habitats?
No

If yes, please explain, and attach maps or a weblink if possible.

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: We continue to work with local DPW on water management programs

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

If yes, please elaborate: We have share information and resources in regards to culverts and ditching maintenance.

CHILDREN AND FAMILIES PROTECTION ACT

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

If yes, please explain: The Children's Protection Act was a main focus on the Project's outreach/education program. Due to the level of misunderstanding or misinterpreting the Act, continued education will be necessary.

If you have data on compliance with this Act and your program, please list here: The Projects keeps official records of all pesticide applications to school grounds on a town and school basis. Included are signed documents by responsible school officials ensuring compliance provisions of the Act prior to any adulticiding.

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: _____